



AMENDMENT

Please amend the above-captioned application as follows:

*In The Claims:*

*Please replace claims 1 and 2 with the following rewritten claims:*

sub B2 A1  
-- 1. (Amended) The method of claim 34, wherein the property of interest of the first sequence is a target for a drug.

2. (Amended) The method of claim 34, wherein the property of interest of the first sequence is a sequence essential for the growth or viability of an organism. --

*Please add the following claim:*

sub B7 A2  
-- 34. (New) A method for identifying a nucleic acid or polypeptide sequence that may possess a property of interest functionally related to a first nucleic acid or a first polypeptide sequence, comprising the following steps:

(a) providing a first nucleic acid sequence or a first polypeptide sequence comprising the property of interest;

(b) providing at least one algorithm capable of analyzing a functional relationship between the nucleic acid or the polypeptide sequences selected from the group consisting of a "domain fusion" method, a "phylogenetic profile" method, and a "physiologic linkage" method; and

(c) comparing the first nucleic acid or the first polypeptide sequence to a plurality of sequences using at least one of the algorithms as set forth in step (b) to identify a second nucleic acid or a second polypeptide sequence that has a functional relationship to the first nucleic acid or polypeptide sequence, thereby identifying a nucleic acid or polypeptide sequence that may possess the property of interest. --